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REMARKS

Claims 1 – 13 and 33 – 40 are pending in the present Application. Claims 4, 7 – 9, 13 and 33 – 40 have been withdrawn; Claims 14 - 32 have been canceled, claims 1 and 6 have been amended, and no claims have been added, leaving Claims 1 – 3, 5, 6, and 10 – 12 for consideration upon entry of the present Amendment.

Claims 1 and 6 have been amended to distinguish between Y in structure 1 and Y' in structure 2. Support for these amendments can at least be found in Claims 1 and 6 as originally filed as well as in Paragraphs [0010] – [0014] of the Specification as originally filed.

No new matter has been introduced by these amendments. Reconsideration and allowance of the claims are respectfully requested in view of the above amendments and the following remarks.

Claim Rejections Under 35 U.S.C. § 112, Second Paragraph

Claims 1 – 3, 5, 6, and 10 - 12 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In particular, Examiner has stated that the divergent definition of "Y" in claim 1 renders the claim indefinite. Claim 1 has been amended to define "Y" and "Y' " separately for each blocked mercaptosilane of Formulae (1) and (2). This amendment therefore clarifies the structures claimed in claim 1 and avoids the divergent definition of Y as pointed out by the Examiner.

Reconsideration and withdrawal of this rejection are respectfully requested.

Claim Rejections Under 35 U.S.C. § 102(b)

Claims 1 – 3, 5, 6, and 10 – 12 stand rejected under 35 U.S.C. § 102(b), as allegedly anticipated by U.S. Patent No. 4, 152,347 to Pletka, et al. (Pletka et al.). Applicants respectfully traverse this rejection.

To anticipate a claim, a reference must disclose each and every element of the claim. *Lewmar Marine v. Variant Inc.*, 3 U.S.P.Q.2d 1766 (Fed. Cir. 1987).

Claim 1, as presently amended, is directed to a blocked mercaptosilane selected from the group consisting of

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$[[(ROC(=O))_p-(G)_j]_k-Y-S]_r-G-(SiX_3)_s$ (1); and

$[(X_3Si)_q-G]_a-[Y'-[S-G-SiX_3]_b]_c$ (2)

wherein

Y is a polyvalent species $(Q)_zA(=E)$ selected from the group consisting of -C(=NR)-;-SC(=NR)-; -SC(=O)-; -S(=O)-; $-S(=O)_2-$; $-OS(=O)_2-$; $(-NR)S(=O)_2-$; -SS(=O)-; -OS(=O)-; (-NR)S(=O)-; $-SS(=O)_2-$; -(-S)P(=O)-; $-P(=O)(-)_2$; -(-S)P(=S)-; $-P(=S)(-)_2$; $(-NR)_2P(=O)-$; (-NR)(-S)P(=O)-; (-O)(-NR)P(=O)-; -(-O)P(=O)-; -(-NR)P(=O)-; $(-NR)_2P(=S)-$; (-NR)(-S)P(=S)-; (-O)(-NR)P(=S)-; -(-O)P(=S)-; and -(-NR)P(=S)-;

Y' is a polyvalent species $(Q)_zA(=E)$ selected from the group consisting of -C(=NR)-;-SC(=NR)-; -SC(=O)-; -S(=O)-; $-S(=O)_2-$; $-OS(=O)_2-$; $(-NR)S(=O)_2-$; -SS(=O)-; -OS(=O)-; (-NR)S(=O)-; $-SS(=O)_2-$; $(-NR)_2P(=O)-$; (-NR)(-S)P(=O)-; (-O)(-NR)P(=O)-; -(-NR)P(=O)-; $(-NR)_2P(=S)-$; (-NR)(-S)P(=S)-; (-O)(-NR)P(=S)-; and -(-NR)P(=S)-;

wherein the atom A, attached to unsaturated heteroatom E is attached to the sulfur which in turn is linked via a group G to the silicon atom;

each R is chosen independently from hydrogen, straight, cyclic, or branched alkyl that may or may not contain a carbon-carbon double bond, an alkenyl group, an aryl group, and an aralkyl group, with each R containing from 1 to 18 carbon atoms;

each G is independently a monovalent or polyvalent group derived by substitution of alkyl, alkenyl, aryl, or aralkyl wherein G can contain from 1 to 18 carbon atoms, wherein at least one G is polyvalent, and if G is monovalent, G can be a hydrogen atom;

X is independently selected from the group consisting of -Cl, -Br, RO-, RC(=O)O-, $R_2C=NO-$, R_2NO-, R_2N-, -R, and $-(OSiR_2)t(OSiR_3)$ wherein each R is as above and at least one X is not -R;

p is 0 to 5; r is 1 to 3; z is 0 to 2; q is 0 to 6; a is 0 to 7; b is 1 to 3; j is 0 to 1, but it may be 0 only if p is 1; c is 1 to 6; t is 0 to 5; s is 1 to 3; k is 1 to 2; with the provisos that (I) if A is carbon, sulfur, or sulfonyl, then (i) a + b is 2 and (ii) k is 1; (II) if A is phosphorous, then a + b is 3 unless both (i) c is greater than 1 and (ii) b is 1, in which case a is c + 1; and (III) if A is phosphorous, then k is 2 and G is a monovalent or polyvalent group derived by substitution of alkyl, alkenyl, aryl, or aralkyl wherein G contains from 1 to 18 carbon atoms .

As presently amended, the proviso in (III) of claim 1 requires that if A is phosphorous, such as, for example when Y is P(=O) or P(=S), then G is a monovalent or polyvalent group derived by substitution of alkyl, alkenyl, aryl, or aralkyl wherein G contains from 1 to 18 carbon atoms. This means that the phosphorous atom of the P(=O) or P(=S) group, when present, is directly bonded either to a carbon atom of the G group, when present (i.e., when $j \neq 0$), or to the carbon atom of the ROC(=O) group when the G group is absent. In either case, the phosphorous atom of the P(=O) or P(=S) group is directly bonded to a carbon atom.

Pletka et al., on the other hand, teach sulfur and phosphorous containing organosilicon compounds of the formula $[R_n^1(R^2O)_{3-n}\text{-Si-Alk-S-}]_xZ$ in which Z has the meanings ≡ PO, ≡ PS, ≡ P, =PR, --PR_2, --$P(OR)_2$, =P(OR), --$PO(OR)_2$, --$PS(OR)_2$, =PO(OR) or =PS(OR). (See Col. 1, ll. 1-16) According to the general structure, therefore, a bond between a phosphorus atom of the Z group, whether P, P=O, or P=S, to a nitrogen atom is not disclosed. Further, when Z is P=O or P=S, a bond between a phosphorus atom of the Z group to a carbon atom is also not disclosed.

The Applicants respectfully argue that Pletka et al. fail to teach or suggest all the limitations found in Claim 1. For instance, Pletka et al. fail to teach or suggest a blocked mercaptosilane wherein either Y or Y' comprises an (P=O)-N- moiety (e.g., phosphamate esters). Therefore, Pletka et al. fail to teach or suggest blocked mercapto silanes according to structures (1) or (2) wherein either Y or Y' is $(\text{-NR})_2\text{P(=O)-}$; (-NR)(-S)P(=O)-; (-O)(-NR)P(=O)-; -(-NR)P(=O)-; $(\text{-NR})_2\text{P(=S)-}$; (-NR)(-S)P(=S)-; (-O)(-NR)P(=S)-; or -(-NR)P(=S)-.

Furthermore, the Pletka et al. structures in which Z comprises a P(=O) or P(=S) group have the phosphorous atom directly bonded to an oxygen atom or a sulfur atom, not to a carbon atom. Accordingly, Pletka et al. disclose the phosphorous atom of the P(=O) or P(=S) group only indirectly connected to an alkyl or aryl group via a phosphoester or phosphothioester linkage rather than directly bonded to a carbon atom. Therefore, Pletka et al. fail to teach or suggest the phosphorous atom of the P(=O) or P(=S) group directly bonded to a carbon atom.

In addition, Pletka et al. do not teach a blocked mercaptosilane according to structures (1) or (2) wherein either Y or Y' comprises an imino moiety (e.g. -C(=NR)- moiety). Therefore, Pletka et al. fail to teach or suggest blocked mercapto silanes according to structures (1) or (2) wherein Y is - C(=NR)- or -SC(=NR)-.

Pletka et al. also fail to teach or suggest a blocked mercaptosilane wherein either Y or Y' comprises an (S=O) moiety (e.g. thiosulfonate, thiosulfate ester, thiosulfinate, etc.) Therefore, Pletka et al. fail to teach or suggest blocked mercapto silanes according to structures (1) or (2) wherein Y is -S(=O)-; -$S(=O)_2$-; -$OS(=O)_2$-; (-NR)$S(=O)_2$-; -SS(=O)-; -OS(=O)-; (-NR)S(=O)-; or -$SS(=O)_2$-.

Pletka et al. also fail to teach or suggest a blocked mercaptosilane wherein either Y or Y' comprises an -S(C=O)- moiety (e.g., a thiocarboxylate ester). Therefore, Pletka et al. fail to teach or suggest blocked mercapto silanes according to structures (1) or (2) wherein either Y or Y' is -S(C=O)-.

Finally, Applicants respectfully submit that Examiner correctly recites a structure disclosed by Pletka et al.; however, the recited structure fails to comply with the proviso (III) of claim 1. Specifically, Examiner states that Pletka et al. teach a blocked mercaptosilane (1 or 2), wherein, *inter alia*, Y is P(=O) or P(=S) and k=1. (Office action dated 04/22/04, page 4) (emphasis added). Claim 1 requires that when A is phosphorous, such as, for example when A(=E) is P(=O) or P(=S), then k=2. (emphasis added). On its face, the recited Pletka et al. structure consequently fails to teach each and every element of claim 1, therefore the recited structure cannot anticipate claim 1.

Accordingly, Pletka et al. teach very different compounds from the a blocked mercaptosilanes claimed in the present application. As Pletka et al. fail to teach or suggest all of the claim limitations of claim 1, the claim has not been rendered anticipated. Claims 2 – 3, 5, 6, and 10 – 12 all ultimately depend from independent claim 1 and are also not anticipated by the reference. Accordingly, the Applicants respectfully request reconsideration and removal of the rejections.

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1 – 3, 5, 6, and 10 – 12 stand rejected under 35 U.S.C. § 103(a), as allegedly rendered obvious by Pletka et al. Applicants respectfully traverse this rejection.

For an obviousness rejection to be proper, the Examiner must meet the burden of establishing a prima facie case of obviousness. *In re Fine*, 5 U.S.P.Q.2d 1596, 1598 (Fed. Cir.

1988). Establishing a prima facie case of obviousness requires that all elements of the invention be disclosed in the prior art. *In Re Wilson*, 165 U.S.P.Q. 494, 496 (C.C.P.A. 1970).

As described above, Pletka et al. fail to disclose all elements of the present claim 1. For example, when A(=E) is P(=O) or P(=S), the phosphorous atom is bound to a carbon atom rather than to another oxygen or sulfur atom. In another example, a bond between a phosphorus atom of the Z group, whether P, P=O, or P=S, to a nitrogen atom as claimed in claim 1 is not disclosed or suggested by Pletka et al. Further, the differences in the chemical bonds are likely to result in substantial differences in the structural, chemical, and physical properties between the Pletka et al. compounds and the presently claimed blocked mercaptosilanes. Applicants respectfully submit that Examiner has failed to establish a prima facie case of obviousness as all the elements of the present claim 1 have not been suggested or disclosed by the cited reference.

As Pletka et al. fail to teach or suggest all elements of the present claim 1, the claim has not been rendered obvious. Claims 2 – 3, 5, 6, and 10 – 12 all ultimately depend from independent claim 1 and are also not rendered obvious by the reference. Accordingly, the Applicants respectfully request reconsideration and removal of the rejections.

It is believed that the foregoing amendments and remarks fully comply with the Office Action and that the claims herein should now be allowable to Applicants. Accordingly, reconsideration and allowance is requested.

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If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 07-0888.

Respectfully submitted,

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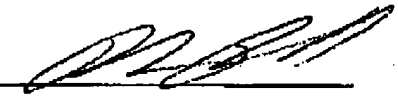
By 

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